MIDDLESEX UNIVERSITY

CATALOGUE
OF THE
SCHOOL OF PHARMACY
1940-1941

BOSTON MASSACHUSETTS

STATEMENT

The Annual Catalogue, published well in advance of the school year to which it applies, contains a condensed record of the Faculty and of the Courses of Instruction to be offered in the School of Pharmacy; and announcements relative to the calendar, requirements for admission and graduation, fees, examinations, and rules for student conduct.

The provisions of this catalogue are not intended to be taken as a basis for the contractual relationship arising between the University and its students. The purpose of the Officers and Trustees is continuously to improve the methods and standards of instruction, and they reserve to themselves the right and responsibility of altering at any time the curriculum, requirements, teaching personnel, fees, and rules, as circumstances may require, or as they may deem to be the best advantage of the University.

MIDDLESEX UNIVERSITY

Catalogue

of the

School of Pharmacy

1940-1941

415 Newbury Street

BOSTON MASSACHUSETTS

University Calendar

1940

July 8	Monday	Summer session begins.
Aug. 17	Saturday	Summer session ends.
Sept. 9 to 14	Monday to Saturday	First installment of tuition due.
Sept. 16 to 21	Monday to Saturday	Examinations for the removal of conditions.
Sept. 23	Monday	Fall Session opens.
Oct. 12	Saturday	Columbus Day. A holiday.
Nov. 11	Monday	Armistice Day. A holiday.
Nov.	(To be announced)	Thanksgiving Recess.
Dec. 16 to 21	Monday to Saturday	Second installment of tuition due.
Dec. 23, 1940	Monday	Christmas Vacation begins

1941

Jan. 6	Monday	Classes resumed.
Feb. 3	Monday	Second Semester begins.
Feb. 22	Saturday	Washington's Birthday. A holiday.
Mar. 24 to 29	Monday to Saturday	Third installment of tuition due.
Mar. 24 to 29	Monday to Saturday	Spring recess.
Mar. 31	Monday	Classes resumed.
April 19	Saturday	Patriot's Day. A holiday.
May 30	Friday	Memorial Day. A holiday.
June 7	Saturday	Seniors' Class Day.
June 8	Sunday	Baccalaureate Service.
June 9	Monday	Commencement Exercises.

The Trustees of Middlesex University

Prsident
C. Ruggles Smith, A.B., A.M., Litt.B., LL.B.

First Vice President
Frank L. Whipple, A.B., A.M., B.D., M.D.

Second Vice President
John M. Russell, A.B., LL.B.

Treasurer
John Hall Smith, M.D.

Secretary
Horatio S. Card, A.B., A.M., M.D.

Recorder
Mabel B. Smith

Howard Charles Gale, A.A., S.T.B., M.D. .	Beverly
Joseph I. Cheskis, A.B., A.M., Ph.D. . .	Boston
Harry R. Bolan, A.B., M.D.	Cambridge
Hugh Wallace Smith, A.B.	Melrose
Rose F. Jannini, M.D.	Winthrop
Thomas J. Smith	Boston

Officers of Administration

President of the University
C. Ruggles Smith, A.B., A.M., Litt.B., LL.B.

Dean of the School of Pharmacy
Horatio S. Card, A.B., A.M., M.D.

Assistant to the Dean
Benjamin P. Hecht, B.S., Ph.C., M.S.

Counsel
John M. Russell, A.B., LL.B.

Physicians to Students
Francis Licata, M.D.
Rose F. Jannini, M.D.

Bursar
Marjorie B. Faxon

Librarian
Dorothy McLaughlin

Secretary to the Dean
Bernice M. Cameron

Director of Aeronautics
George Hollis Boynton, M.D.

THE SCHOOL OF PHARMACY

The Back-Bay Building, conveniently located at 415 Newbury Street, Boston, houses the offices, lecture halls, laboratories, and model drug store of the School of Pharmacy. It also contains a gymnasium and a running track.

MIDDLESEX REACHES TO THE SKY

The Watch Tower on the Administration Building on Middlesex University's hill-top campus is the loftiest structure in Waltham. To the right are laboratories and the five-story class-room building.

Faculty of The School of Pharmacy

THE list of faculty, comprising the professors, associate professors, and instructors, in the School of Pharmacy, includes those engaged in teaching during the session 1939-1940, and those who have been appointed up to March 1, 1940, for the session 1940-1941. The complete list of faculty appointments for the 1940-1941 school year will not be available until September, 1940. It is anticipated that a substantial number of important additions to the faculty roster will be announced during the intervening period.

HORATIO S. CARD, *Dean* . . . . . *Toxicology*
A.B., A.M., M.D., Bowdoin

S. PHILIP BIALOW . . . . . *Materia Medica*
Ph.G., Brooklyn College of Pharmacy
M.D., Middlesex University

BENJAMIN P. HECHT . . . . . *Theoretical Pharmacy*
B.S., Ph.C., Massachusetts College of Pharmacy
M.S., University of Wisconsin

RUSSELL F. BRODMAN . . . . *Operative Pharmacy*
Ph.G., Philadelphia College of Pharmacy
A.B., Temple University
M.D., Middlesex University

LOUIS STRAUSS . . . . . *Pharmaceutical Arithmetic*
Ph.G., Massachusetts College of Pharmacy
B.S., Middlesex University

HAROLD HECHT . . . . . *Commercial Pharmacy*
Ph.G., Massachusetts College of Pharmacy

Louis J. Badia . . . . . *Pharmacognosy*
Ph.G., B.S., Fordham University

Simon M. Lipton . . . . . *Prescriptions*
B.S. in Pharmacy, University of Florida

William N. Morse . . . . . *English*
A.B., Amherst; A.M., Harvard

Soloman H. Gordon . . . . . *Chemistry*
B.S., Massachusetts State College; Ed.M., Boston University

Harold M. Kaplan . . . . . *Biology*
A.B., Dartmouth; Ph.D. Harvard

Harry J. Hyfer . . . . . *First Aid*
M.D., Middlesex University

I. Jacques Yetwin . . . . . *Bacteriology*
B.S., Rutgers; M.S., University of Chicago

Pharmacy — An Essential Profession

THE services the pharmacist renders to society are so important, and the substances he handles so dangerous, that many high qualities are demanded in this profession. The pharmacist must be a cultured man; he must possess the skill and knowledge needed to fill prescriptions accurately; he must understand what drugs should be manufactured and what drugs should be purchased; he must be competent to understand and use the United States Pharmacopoeia and the National Formulary; he should know more than a little about the nature of disease; he must be familiar with the federal and state laws governing his profession. His duties and functions are ever changing, and he must be studious and alert in order to keep up-to-date. In all these activities he should cooperate with the medical profession in the interest of public health.

The state recognizes the need of protection for the public in the manufacture and in the sale of medicines. It therefore requires a pharmacist to pass a state examination satisfactorily before he is granted a license to practice pharmacy. The retail pharmacist is the legal custodian of poisons, dangerous chemicals, and narcotics. It is in times of extreme need, when great epidemics and other catastrophes affect the country, that the true position of the pharmacist is apparent.

The drug industry is one of the essential industries of the country and was so regarded by the United States Government during the World War. There is a stability to it which is not found in non-essential industries. Consequently, it is not so severely affected by periods of depression as are some of the other industries.

The pharmaceutical course offers a very good opportunity for one to acquire a sound cultural background, combined with the technical training essential to a professional career.

The University

The history of Middlesex University may be traced on the statute books of the Commonwealth of Massachusetts. The first of its component schools was chartered in 1849, and its development into a University was made possible by a series of legislative acts and charters in 1850, 1851, 1917, 1935, and 1937. It is empowered to confer degrees in Arts, Sciences, Medicine, and Veterinary Medicine.

The charter of Middlesex University authorizes its Board of Trustees to receive and hold real or personal estate by gift, grant, devise, bequest, or otherwise, to an amount not to exceed five million dollars, and provides that the clear income of the institution shall be applied to the endowment of the University in such manner as most effectually to promote its general educational purposes.

Middlesex University has achieved a high reputation for its freedom from bigotry and intolerance, and from racial or religious discrimination. The perpetuation of this policy is assured by the terms of its charter, which provides that "No officer or instructor in said University shall ever be required by the trustees to profess any particular religious opinion as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said college on account of the religious opinions he may entertain".

The School of Pharmacy

The School of Pharmacy enjoys the unique advantage of close affiliation with the School of Medicine and the College of Arts and Sciences. The faculties of these three university departments work in cooperation with a resultant interchange of ideas and a sharing of facilities for laboratory teaching and research, that prove mutually beneficial. The Middlesex Hospital in Cambridge, which is affiliated for teaching purposes with Middlesex University, offers to students in the School of Pharmacy opportunities for practical training in the hospital pharmacy.

Middlesex University is now conducting a two-year course in pharmacy, designed to prepare students for the practice of this profession, and to supplement the practical drug store experience which is a prerequisite for the examination of the Massachusetts Board of Registration in Pharmacy. Like all other departments of the University, the School of Pharmacy is coeducational.

The two-year course in Pharmacy will be offered for the school year of 1940-1941, *but the University is planning to inaugurate a standard four-year course in Pharmacy, leading to the degree of Bachelor of Science, in the near future.*

The four-year course will be designed to conform to the standards established by the American Association of Colleges of Pharmacy and to the requirements of the National Association of Boards of Pharmacy. Since the Massachusetts requirements for registration in Pharmacy do not yet include a degree in that subject, the two-year course will be continued until the need for a four-year course shall arise.

The two-year course is comprehensive and is planned for the benefit of those who cannot afford to spend four years at college. It provides a pharmaceutical education of academic grade at a reasonable cost. The object of the course in pharmacy is to provide a scientific foundation for the pursuit of pharmacy in all of its branches,—to train students of ability and character to compound prescriptions, manufacture pharmaceutical preparations, operate drug stores, enter hospital practice, and engage in pharmaceutical teaching and research.

Those who successfully complete the two-year course receive a diploma of graduation in pharmacy. The course, however, does not lead to a degree. The curriculum has been planned so as to include all of the essential features of a longer course, omitting only subjects which, though cultural and useful in a general way, are not a necessary part of the preparation for pharmacy practice.

Students in the School of Pharmacy are required to pursue elementary courses in the basic sciences of botany and chemistry, and then rationally to consider their application to pharmacy. The general courses are followed by specialized didactic and laboratory instruction in the various divisions of the field.

Location, Buildings, and Facilities

The School of Pharmacy occupies the Back Bay Building of Middlesex University, located at 415 Newbury Street, in the heart of the professional district of up-town Boston. It is half a block from the Massachusetts Avenue subway station, and contiguous to the Harvard Club and the Puritan and Somerset hotels. Its central location makes it accessible by automobile, all car lines, and railroads. The School is housed in a modern, well-lighted structure with abundant floor space in laboratories, lecture-rooms, offices, an auditorium, and a model drug store. The basement contains a large gymnasium that includes a basket-ball floor and a running track.

All laboratories are equipped with apparatus, materials, and supplies necessary for practical instruction, and contain benches with gas, water, shelves, and lockers for the individual student. There is a collection of crude official and non-official drugs.

Through generous donations from chemical houses and pharmaceutical manufacturers, there has been equipped a room serving as a model drug store. Commercial pharmacy is taught by this means, including the merchandising of drugs and sick-room accessories, buying, advertising, salesmanship, inventories, window-display, and decoration.

Middlesex University possesses several acres of ground available for a Pharmaceutical Experiment Station. Any sufficiently well-grounded student in pharmacognosy may under special supervision avail himself of the opportunities offered in the development of a botanical garden.

Other departments of the University are located on its 96-acre campus in Waltham, where it has erected an extensive group of new buildings during the past ten years.

University Library

The general reading rooms and library of the University are situated on the Waltham Campus. They contain a collection of several thousand volumes, including the latest scientific and medical text-books, modern language classics, works of reference, current and past copies of general and medical periodicals, and

bound copies of scientific journals. Students from all departments may have access to the general library, and a separate branch library is maintained at the Back Bay Building for the School of Pharmacy. A special collection of text-books and journals in the pharmaceutical field is maintained in this library, in addition to a generous selection of medical, scientific, and cultural books from the general library.

The Boston Medical Library, No. 8 The Fenway, is situated within four blocks of the Back Bay Building. Founded in 1875, it contains the largest collection of medical books and periodicals to be found in New England, including over 160,000 bound volumes, over 100,000 pamphlets and reprints, and some 900 current periodicals. Students have free access to the great resources of the Boston Public Library, which is also in the Back Bay section, within walking distance of the School of Pharmacy.

Student Accommodations

Satisfactory living quarters are available in the immediate vicinity of the School of Pharmacy, at an average weekly cost of ten dollars for room and board. The University maintains a list of approved rooming houses, and there are a number of conveniently located restaurants.

Students arriving from out-of-town may secure lodgings at the Boston Y.M.C.A., 316 Huntington Avenue; and women students are recommended to the Y.W.C.A., at 410 Stuart Street, and the Franklin Square House, 11 East Newton Street, where accommodations exclusively for women may be obtained at moderate prices.

Scholarship, Student-Aid, and Awards

Middlesex University has no scholarship endowment, but individual gifts make available each year a limited number of scholarships covering in full or in part tuition in any department of the University. Applicants for these scholarships must have very high scholastic standing and must be in actual need of financial assistance. Continuance of the scholarship from one year to another depends upon the recipient's moral, social, and scholastic qualifications. All scholarship applicants must have a personal interview with the President and with the Dean of the respective School.

There are also available a limited number of service scholarships covering the cost of tuition. Recipients of these scholarships must have proper qualifications to serve as laboratory assistants or otherwise.

Middlesex University has participated for several years in the federal student aid program of the National Youth Administration. The purpose of this program is to provide employment of a socially useful nature for students who would otherwise be financially unable to continue their education. Students appointed to these positions are assigned to work under the supervision of various faculty members and are paid from $10.00 to $20.00 a month by the National Youth Administration. Middlesex University had a quota of 37 federal student aid positions during the school year 1939-1940. The Civil Aeronautics Authority of the United States government also assigned this year to Middlesex University a quota under its civilian pilot training program. Selected students are thus enabled, at government expense, to receive adequate ground school and flying instruction to qualify for a pilot's license. Only students under 25 years of age are eligible for federal student aid or for the government-sponsored flying course.

Admission

Applicants for admission must either have completed a four-year course in an accredited high school, including 15 units in selected subjects, or they must have an equivalent education, as shown by certificate or examination.

Although any standard high school course is acceptable, it is recommended that applicants present credits that include physics, chemistry, or biology. It is also highly desirable that students complete one or more years of practical drug store experience before enrolling in the two-year course. Some states require four-years of drug store experience, including time spent in a school of pharmacy, as a prerequisite for the examination for the pharmacist's license.

Students who have successfully completed one year of work in an approved school of pharmacy may be admitted to advanced standing. In all cases, however, the senior year must be completed at Middlesex University.

The School of Pharmacy is coeducational, since this is a profession which offers equal opportunities to men and women. Students desiring to secure admission to the School may obtain application blanks by writing to Middlesex University, 415 Newbury Street, Boston. Application should be filed accompanied by a personal unmounted photograph and the verification fee of ten dollars. All students enrolled in the University are accepted for one year only, although re-admission is ordinarily granted if a student successfully completes the year's work. The University in no way binds itself to accept students for further instruction, and reserves the right to refuse admission or re-admission to any student, regardless of his educational qualifications.

Medical Attendance

Medical advisers with offices in Boston in the vicinity of the School of Pharmacy will be available for consultation by students. They may also be seen by appointment at the School. A routine medical examination of each member of the entering class will be made at the beginning of the academic year.

Any illness necessitating absence from class must be reported to the medical adviser. Attendance during all class and laboratory exercises is required. Students who are absent, for any considerable time, on account of illness or for other unavoidable reason, must present medical certificates or other satisfactory evidence in justification of their absence.

Examinations and Promotion

Admission to the School is for one year only, and the Trustees reserve the right to dismiss a student at any time, or refuse re-admission or promotion to any student.

The pharmacy course extends over a period of two years, and the students are divided into two classes. Promotion from one class to another is based upon the satisfactory completion of the year's work. A student will not be admitted to the final examinations in any course unless his class record, attendance, and laboratory work in that subject are satisfactory, and all of these elements will be considered in the determination of his final grade. Marks are given in all courses on a percentage basis, and a grade of seventy-five per cent is required to pass the course.

A student will not be allowed the privilege of final examinations, or be given his final grades in any course, until he has satisfied all of his financial obligations to the School.

The Committee on Promotion, consisting of Administrative Officers of the School and members of the Faculty, review the work of the student at the end of the first year of the course. It is within the province of the Committee on Promotion to decide whether a student shall be promoted to the next class, shall be permitted to take further instruction in the Summer Session and examinations for the removal of conditions in September, shall be required to repeat the year's work, or shall be denied further registration in the School by reason of unsatisfactory scholarship.

Students who fail to receive passing grades in the final examinations in June may, at the discretion of the Committee on Promotion, be given an opportunity to enroll in the Summer Session for further instruction in the subjects failed, and to take examinations for the removal of their conditions during the scheduled re-examination period in September before the opening of the school year. A fee of five dollars is charged for every such re-examination. The Committee on Promotion may permit re-examination in certain instances without requiring the conditioned student to enroll for further instruction in preparation for such examinations. Students who are eligible for re-examinations must make written application at least two weeks before the examinations are scheduled, and remit the required fee of five dollars for each examination.

The mere attainment of passing grades does not insure promotion. The continuance in good standing of any student is also contingent upon his faithful adherence to the rules and regulations of the School and of affiliated institutions, as well as his observance in extra-curricular activities of a moral standard appropriate to one aspiring to the pharmacy profession.

Any student who voluntarily withdraws from the School for proper reasons forfeits his standing, but may apply for readmission in a subsequent year. If not too long a time has elapsed, and if changes in the rules of promotion or in the curriculum do not render such an admission impractical, his application should receive favorable consideration.

Requirements for Graduation

Each candidate must have fulfilled the following requirements to be eligible for graduation:

1. He must be of good moral character.
2. He must have satisfactorily completed the two-year course in separate years.
3. If he has been admitted to advanced standing from some other school of Pharmacy, he must have completed the last year at Middlesex University.
4. He must have received a passing grade in each subject of the curriculum, and he must have presented a satisfactory record of laboratory work.
5. He must have furnished a personal photograph and his signature for identification.
6. He must have satisfied all indebtedness to the University.
7. He must have satisfied the Trustees that he has not only the knowledge essential to the practice of his profession, but also the moral and ethical characteristics that should be possessed by every practitioner.

Fees and Expenses

Fees are payable only by postal money order, certified check, express money order and telegraph order. Remittances must be made by mail, and addressed to Middlesex University, Box 310, *Waltham, Massachusetts.*

The verification fee of ten dollars is payable by all new students and should accompany the filing of the application blank. This fee is not refundable except in cases where the application is rejected through no lack of qualification of the applicant, but because no vacancy exists in the class to which admission is sought. The verification fee is payable only once, and may be credited to the student's account, should he withdraw his application and then re-apply in a subsequent year.

The matriculation fee of twenty-five dollars is payable by each candidate for admission or re-admission to the School, when he is notified that his application has been acted upon favorably by the Committee on Admissions. No place will be reserved in a

class until the accepted applicant has paid this matriculation fee. This fee is payable annually and is not refundable. This fee is to reserve a place for the matriculant, and does not constitute part of the tuition.

The tuition fee of $175 is charged for each year of instruction in the School of Pharmacy. This fee is payable in three installments of $60, $55, and $60 respectively, on the dates indicated on the University Calendar. The tuition fee includes all laboratory charges except breakage, damage, and loss of apparatus. It is not subject to refund.

Any student whose installment of indebtedness to the School remains unpaid on the date fixed for final payment is deprived of the privileges of the School until he is reinstated. Reinstatement is obtained only by consent of the Board of Trustees, after payment of all indebtedness and a reinstatement fee of ten dollars. This charge of ten dollars is also payable, in the form of a late-registration fee, by all students who may be permitted to enroll in the School after the date set for payment of the first installment of the tuition.

An examination fee of five dollars is charged for the first re-examination in any subject failed. Any subsequent or special examination, except in the case of illness, is subject to a charge of ten dollars.

A student may obtain one transcript of his scholastic record without charge. A clerical fee of one dollar is required for all additional transcripts.

The cost of required textbooks and the standard equipment for use in the pharmacy course amounts to about twenty-five dollars a year.

There are no laboratory fees or term bills, except in case of unreasonable waste of material, damage to apparatus, or abuse of the premises. There are no student activity fees, or other unannounced charges.

Curriculum of the Two-Year Course in Pharmacy

The schedule of classes is tentative and may be altered at the discretion of the Trustees.

Junior Year

<table>
<tr><th>Hours</th><th>Monday</th><th>Tuesday</th><th>Wednesday</th><th>Thursday</th><th>Friday</th></tr>
<tr><td>9-10</td><td rowspan="2">Inorganic Materia Medica</td><td rowspan="2">Inorganic Chemistry and Laboratory</td><td>English</td><td rowspan="2">Inorganic Chemistry and Laboratory</td><td>Botany</td></tr>
<tr><td>10-11</td><td>Public Speaking First Aid</td><td rowspan="2">Pharmaceutical Arithmetic</td></tr>
<tr><td>11-12</td><td>Pharmacy Recitation</td><td></td><td></td><td></td></tr>
<tr><td>12-1</td><td>Recess</td><td>Recess</td><td>Recess</td><td>Recess</td><td>Recess</td></tr>
<tr><td>1-2</td><td>Theoretical Pharmacy</td><td>Pharmaceutical Latin</td><td>Theoretical Pharmacy</td><td>Pharmacy Recitation</td><td>Theoretical Pharmacy</td></tr>
<tr><td>2-3</td><td rowspan="2">Operative Pharmacy</td><td>Posology</td><td rowspan="2">Operative Pharmacy</td><td>Theoretical Pharmacy</td><td rowspan="2">Operative Pharmacy</td></tr>
<tr><td>3-4</td><td>Toxicology</td><td>Pharmaceutical Arithmetic</td></tr>
</table>

Senior Year

<table>
<tr><td>9-10</td><td>Pharmacognosy Recitation</td><td>Pharmacognosy Laboratory</td><td rowspan="2">Organic Chemistry and Laboratory</td><td>Pharmacy Recitation</td><td rowspan="2">Organic Chemistry and Laboratory</td></tr>
<tr><td>10-11</td><td>Pharmacognosy Lecture</td><td rowspan="2">Theoretical Pharmacy</td><td rowspan="2">Theoretical Pharmacy</td></tr>
<tr><td>11-12</td><td>Organic Materia Medica</td><td></td></tr>
<tr><td>12-1</td><td>Recess</td><td>Recess</td><td>Recess</td><td>Recess</td><td>Recess</td></tr>
<tr><td>1-2</td><td>Pharmaceutical Chemistry</td><td rowspan="3">Operative Pharmacy and Laboratory</td><td rowspan="2">Bacteriology</td><td>Pharmaceutical Arithmetic</td><td rowspan="3">Art of Compounding Prescriptions</td></tr>
<tr><td>2-3</td><td>Biochemistry</td><td rowspan="2">Commercial Pharmacy</td></tr>
<tr><td>3-4</td><td>Merchandising</td><td>Pharmaceutical Jurisprudence</td></tr>
</table>

Description of Courses

Bacteriology.

The morphology, physiology, and cultivation of bacteria and related organisms. Practical work in preparation of media, sterilization, and cultural studies of micro-organisms; serums, antitoxins, and vaccines; immunology.

Botany.

An introductory course in plant study; structure and function of plants; taxonomy. Systematic study of the ferns and phanerogams. Emphasis is placed upon plants which yield the official drugs.

Chemistry.

Inorganic Chemistry. Lectures and laboratory. A study of the basic laws and theories of chemistry; elements and compounds; the properties and manufacture of chemical drugs.

Qualitative Analysis. Lectures and laboratory. The reactions of acid and basic radicals; tests on known and unknown solutions; tests for identity and impurities.

Organic Chemistry. Lectures and laboratory. The carbon compounds, with special reference to those used in pharmacy; the aliphatic and aromatic series; alkaloids, drugs, essential oils; identification and purification of substances.

Quantitative Analysis. Volumetric and gravimetric analysis. Assay of drugs.

Pharmaceutical Chemistry. A review of chemical principles; application to drugs; properties and manufacture of drugs.

Biochemistry. Proteins, fats, carbohydrates; blood and urine; vitamins and enzymes; chemistry of the vital processes. Practical examination of blood and urine.

English.

Composition; literature. A course designed to enable the student to express himself effectively in the speech and writing demanded in his professional and social life.

Commercial Pharmacy.

Advertising, Merchandising, Salesmanship, Display. Lectures and practical work, including display, arrangement, location, capital, financing, merchandising, advertising, salesmanship, and store management. The facilities of the model drug store are used extensively in training the student to meet the practical problems of operating a retail pharmacy.

Business Law and *Pharmaceutical Jurisprudence.* A study of the legal principles applicable to the practice of pharmacy. These are of especial importance to the owner or manager of a drug store. The course includes a consideration of contracts, agency, torts, and the specific statutes governing the sales of drugs, narcotics, and poisons.

Drug Store Accounting. Principles of accounting; books of original entry; ledgers; books of final entry; construction and analysis of work sheets; partnerships, corporations; classifications of balance sheet items.

First Aid and Physiology.

The study of physico-chemical processes underlying organic behavior; the morphology and function of the organs of the human body; hygiene.

Directions for first aid; the temporary treatment of wounds, hemorrhage, fractures, and other emergencies.

Histology and Pharmacognosy.

Histology. Cells and tissues; the finer structure of vegetative and reproductive organs of higher plants; structure of those plant organs and cell contents which are used as drugs.

Pharmacognosy. The natural history of vegetable and animal drugs, especially those official in the U.S.P. and N.F.; drug culture, preparation, purity, preservation, classification, geographical distribution, pharmaceutical uses, active constituents, and dosage. Crude drugs are studied in the laboratory. Emphasis is placed on the new developments in the field of vitamin, hormone, and glandular products.

Materia Medica, Posology, and Toxicology.

Inorganic Materia Medica. A study of inorganic and synthetic pharmaceutical substances; official names, synonyms, properties, doses, and toxicology.

Organic Materia Medica. Taxonomy of vegetable and animal drugs; official titles, synonyms, origin, parts used, nature, constituents, uses, substitutes, doses, toxocology.

Posology. Definitions of doses; factors influencing the dose; forms of the drug; time and methods of drug administration; grouping of liquids and solids according to quantitative dose.

Toxicology. The toxic action of the important drugs; identification of poisons, including antidotes and emergency treatment.

Pharmaceutical Latin.

Latin grammar in relation to pharmaceutical, chemical, and botanical nomenclature, prescription writing and interpretation; translation of prescriptions.

Pharmaceutical Arithmetic.

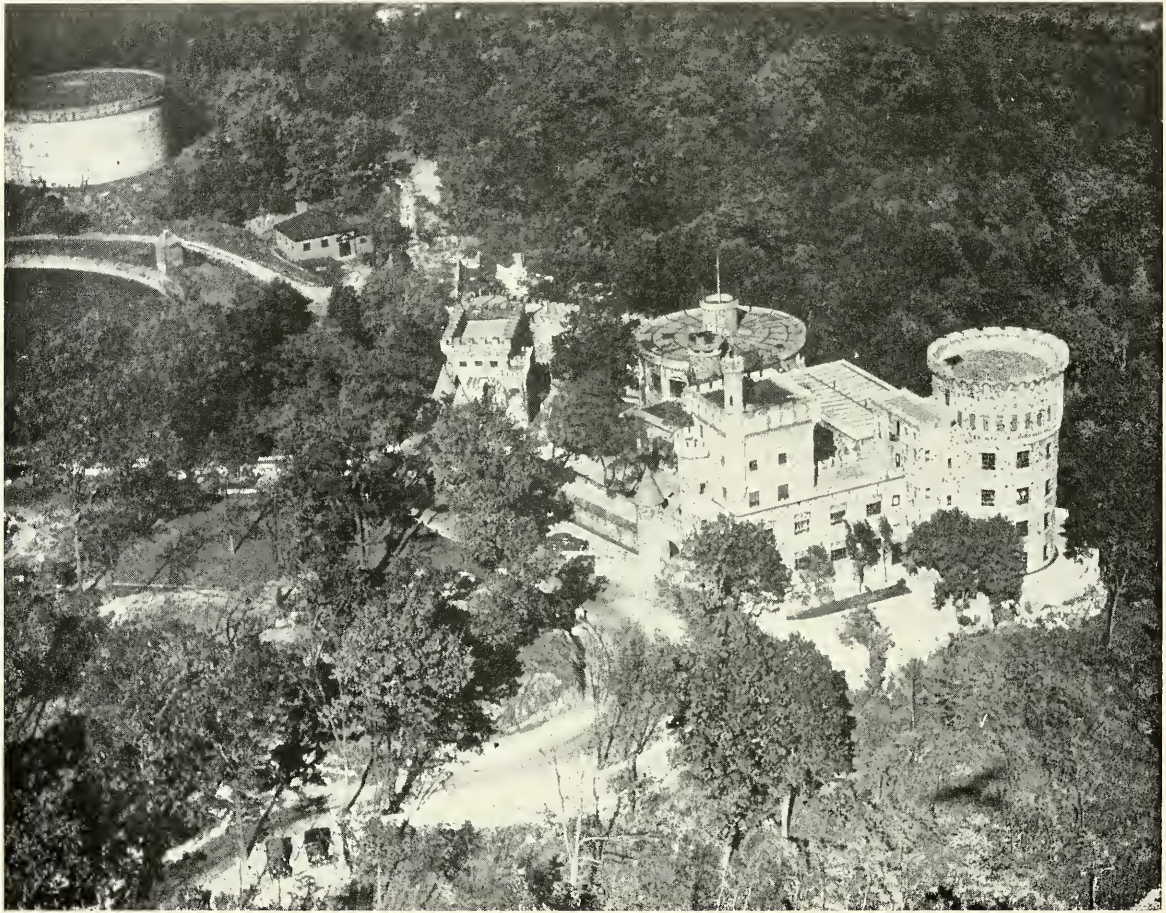
Arithmetic of the different systems; relationships among weights and measures; percentage solutions, specific gravity; weights and volumes; computation of doses.

Pharmacy.

Theoretical Pharmacy. An introduction; the history of pharmacy and its relation to medicine; a study of Pharmacopoeias, Dispensatories, the National Formulary, New and Nonofficial Remedies, and reference works; the basic pharmaceutical processes, including a study of operations, and the methods and forms of apparatus employed.

Operative (Practical) Pharmacy Laboratory. The preparations of the U.S.P., N.F., and others frequently used, are taken up, a group at a time. The course passes from the simpler to the more difficult official preparations. Representative selections of each group are prepared in the laboratory.

Art of Compounding Prescriptions. A study of the compounding of medicines, the dispensing of prescriptions, and the various kinds of prescriptions.



Aerial View of Middlesex University

THE NORMAN TOWER

The architecture of medieval England inspired the design of the fieldstone castles that Middlesex University built to house its laboratories and classrooms.

Hospital Pharmacy. Organization and functions of a hospital; requirements of a pharmacy department within a hospital.

Students are assigned for practical work and instruction to the pharmacy of the Middlesex Hospital in Cambridge, which is affiliated for teaching purposes with Middlesex University. ,

Public Speaking.

Writing and presentation of speeches; voice, posture, manner of delivery; debating; reference material; audience analysis; enunciation; voice placement.

Zoology.

Life, protoplasm, cells; classification of animals; functions of organs and tissues; distinction between plants and animals.

GIFTS AND ENDOWMENT

Middlesex University is authorized by the Massachusetts Legislature to receive and hold donations, legacies, and bequests of real and personal property to an extent not to exceed five million dollars, and to use such property or the income therefrom for its general educational purposes.

The School of Pharmacy and the School of Medicine are now in need of substantial endowment funds. The Trustees will be glad to receive specific gifts of books, equipment, or material for the use of any department of the University; and would be very grateful for any donation to the endowment of the University.

Bequests may be made in the following form:

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